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Relationship Between Fall-Related Efficacy and Activity Engagement in Community-Dwelling Older Adults: A Meta-Analytic Review

Stacey Schepens, PhD, OTR[Postdoctoral Fellow],
Department of Physical Medicine and Rehabilitation, Institute of Gerontology, University of Michigan, 300 North Ingalls Street, 9th Floor, Ann Arbor, MI 48109- 2007

Ananda Sen, PhD[Research Associate Professor],
Department of Family Medicine and Biostatistics, University of Michigan, Ann Arbor

Jane A. Painter, EdD, OTR/L, FAOTA[Professor], and
Occupational Therapy Department, East Carolina University, Greenville, NC

Susan L. Murphy, ScD, OTR/L[Assistant Professor]
Department of Physical Medicine and Rehabilitation, University of Michigan, and Research Health Science Specialist, Geriatric Research Education and Clinical Center, Veterans Affairs Ann Arbor Health Care System, Ann Arbor, MI

Stacey Schepens: schepens@umich.edu

Abstract

OBJECTIVE—Fear of falling can lead to restricted activity, but little is known about how this fear affects different aspects of people's lives. This study examined the relationship between fall-related efficacy (i.e., confidence or belief in one's ability to perform activities without losing balance or falling) and activity and participation.

METHOD—We conducted a meta-analysis of studies comparing community-dwelling older adults' fall-related efficacy to measures of activity or participation.

RESULTS—An examination of 20 cross-sectional and prospective studies found a strong positive relationship between fall-related efficacy and activity (r = .53; 95% CI [.47, .58]). An insufficient number of studies examining fall-related efficacy and participation were available for analysis.

CONCLUSION—Low fall-related efficacy may be an important barrier to occupational engagement for many older adults and warrants careful consideration by occupational therapists. Future research should explore interventions that target fall-related efficacy and examine their effects on activity performance and engagement.

Keywords

accidental falls; activities of daily living; fear; self efficacy

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Falls in older adults are a major public health concern; nearly 3.5 million community-dwelling older adults reported at least one fall in a 3-mo time frame (Boyd & Stevens, 2009). Falls can have devastating physical consequences, including injury, hospitalization, and even death (Bergland & Wyller, 2004; Masud & Morris, 2001; Rubenstein, 2006). To treat and prevent falls, occupational therapists often focus on physical factors and attempt to increase safety in clients' environments to enable them to more fully engage in daily activities.

Falls also have psychological consequences. *Fear of falling*, defined as concern about falling that leads to activity avoidance or reduction (Tinetti & Powell, 1993), has been reported to occur in 35% to 55% of older adults (Boyd & Stevens, 2009; Fletcher, Guthrie, Berg, & Hirdes, 2010; Friedman, Munoz, West, Rubin, & Fried, 2002; Zijlstra et al., 2007). Whereas some level of fear of falling may bring about increased caution during activity performance, which in turn may be protective against falls, this fear may also lead to excessive restriction of activity, which could be debilitating (Cumming, Salkeld, Thomas, & Szonyi, 2000; Deshpande, Metter, Lauretani, et al., 2008; Li et al., 2002; Steultjens, Dekker, & Bijlsma, 2001). Indeed, the link between fear of falling and activity restriction has been well established (Curcio, Gomez, & Reyes-Ortiz, 2009; Deshpande, Metter, Bandinelli, et al., 2008; Deshpande, Metter, Lauretani, et al., 2008; Fletcher et al., 2010; Lachman et al., 1998; Murphy, Williams, & Gill, 2002). Among adults who are fearful of falling, 13% to 50% have reported restricting their activity (Fletcher & Hirdes, 2004; Friedman et al., 2002; Murphy et al., 2002; Wilson et al., 2005; Zijlstra et al., 2007), and instruments have been developed to measure activity-related fear of falling (Lachman et al., 1998).

In addition to direct measures of fear of falling (Friedman et al., 2002; Howland et al., 1998; Kempen, van Haastregt, McKee, Delbaere, & Zijlstra, 2009), fear of falling is often operationalized by two related but separate constructs: (1) falls self-efficacy and (2) balance confidence (Jørstad, Hauer, Becker, & Lamb, 2005; Moore & Ellis, 2008). Both constructs are relevant to rehabilitation practice and provide important outcomes for clinical trials of fall prevention (Jørstad et al., 2005). The constructs are based on Bandura's (1986, 1997) self-efficacy theory, which postulates that a person's perceived self-efficacy affects his or her activity performance. Self-efficacy is situation specific in that a person's belief in his or her ability to execute a course of action is particular to the given situation. Instruments used to measure self-efficacy often include a variety of activities (Bandura, 1997) and tend to ask "how confident" or "how certain" a person is that he or she can achieve a behavior or physiological state within a specific set of conditions (Lorig & Holman, 2003).

Falls self-efficacy has been defined as "perceived self-confidence at avoiding falls during essential, relatively non-hazardous activities" (Tinetti & Powell, 1993, p. 36). This concept was originally introduced as a measure of fear of falling, but since then it has been recognized as a distinct construct that measures the psychological sequelae of falls and perceived fall risk. Falls self-efficacy has received a great deal of attention in research, as evidenced by several tools developed to measure the construct (Jørstad et al., 2005) and the recent international focus of the Prevention of Falls Network Europe (ProFaNE) group on falls self-efficacy (Skelton et al., 2004; Yardley et al., 2005).

Although not as widely researched as falls self-efficacy, balance confidence has been a focus of attention as a psychological aspect related to falling. *Balance confidence* addresses a person's confidence or efficacy in maintaining balance and has specifically been defined as one's degree of belief in one's ability to avoid a loss of balance during activities of daily living (ADLs; Powell & Myers, 1995). For the purposes of this article, falls self-efficacy and balance confidence are referred to collectively as *fall-related efficacy*—that is, confidence in one's ability to perform activities without losing balance or falling. Low falls self-efficacy and balance confidence have been associated with both physical and psychological adverse outcomes such as poor balance performance (Schepens, Goldberg, & Wallace, 2010), reduced lower-extremity strength (Maki, Holliday, & Topper, 1991), depression (Chou, Yeung, & Wong, 2005), anxiety (Gagnon, Flint, Naglie, & Devins, 2005), and decreased quality of life (Kato et al., 2008; Lachman et al., 1998).

The relationship between self-efficacy and performance has been demonstrated in a wide range of research areas such as health behaviors (Grembowski et al., 1993), physical

functioning (Li et al., 2001), work performance (Stajkovic & Luthans, 1998), and educational achievement (Lent, Brown, & Larkin, 1984). One's personal sense of ability and control influences one's motivation to engage in valued activities and occupations (Kielhofner, 2008; Peterson et al., 1999; Peterson, Kielhofner, Tham, & von Koch, 2010). Because self-efficacy theory directly links self-efficacy to participation in and performance of activity, addressing low fall-related efficacy may indeed enhance occupational engagement and provide an important adjunct to occupational therapy treatment that is in need of further investigation.

The research described in this article aimed to answer two questions:

1. What are the relationships between fall-related efficacy and measures of activity and participation in community-dwelling older adults?
2. Does the strength of these relationships vary depending on the type of fall-related efficacy scale and type of activity assessed?

Method

Our meta-analysis included a review of published articles that addressed both fall-related efficacy and measures of activity and participation. Between December 2009 and June 2010, we conducted a computerized search of the following databases: CINAHL, Cochrane Library and Best Evidence, ISI Web of Science, MEDLINE, and PubMed. We identified the MeSH subject terms and key words pertaining to fall-related efficacy, activity, and participation before initiating the search. Fall-related efficacy terms were *balance confidence, concern for falling, efficacy, fall-related efficacy, falls self-efficacy,* and *self-efficacy*. In addition, we used *fear of falling* as a search term because *fear of falling* and fall-related efficacy terms are often used interchangeably (Jørstad et al., 2005). Key words we used for activity and participation were *activities of daily living, activity, activity avoidance, activity engagement, activity restriction, balance, exercise, leisure, mobility, occupation, occupational performance, participation, performance, physical activity, social role,* and *tasks*. In addition to computerized searches, we conducted manual searches of the reference sections of extracted articles and pertinent review articles.

Extraction Procedures

Three reviewers (Stacey Schepens, Susan L. Murphy, and Jane A. Painter) took part in article identification and data extraction. Schepens conducted the database search and the manual search of references to identify potentially relevant articles. Schepens also reviewed titles and abstracts, excluded articles not meeting the selection criteria, and retrieved full-text documents of the remaining articles for additional screening. Schepens and Murphy reviewed these articles to confirm that selection criteria were met. When we disagreed, all three reviewers discussed the discrepancy until we reached consensus. Finally, Painter extracted pertinent information from the remaining articles (e.g., research design, sample size, measures used, effect sizes) and confirmed that all studies met the selection criteria.

Selection Criteria

To be included, studies had to be written in English and published between 1990 and 2010. This 20-yr time span was deemed satisfactory to capture the salient research on fall-related efficacy, because this was a new research focus in the early 1990s. Study samples were required to include older adults with a mean age of ≥60 yr who lived in the community and were not designated as belonging to a specific disease group (e.g., Parkinson's disease, multiple sclerosis). Whereas some studies selected older adults on the basis of fall history, we did not consider fall status of the sample for inclusion in our study. With regard to the

research design, we included nonintervention studies (e.g., cross-sectional, prospective) but excluded case reports and qualitative studies. Additionally, we required that each study report statistical information necessary to perform the meta-analysis, including means, standard deviations, sample size, and *r* or partial *r* values.

We excluded studies reporting only adjusted *r* or R^2 values because the absence of the other data would hinder our ability to pool the data. Finally, studies had to assess fall-related efficacy using the Falls Efficacy Scale (FES; Tinetti, Richman, & Powell, 1990) or the Activities-specific Balance Confidence (ABC) scale (Powell & Myers, 1995), along with a measure of activity or participation functioning or performance, as defined in Table 1.

Operationalized Terms

Fall-related efficacy included two psychological constructs: falls self-efficacy and balance confidence (see Table 1). To avoid comparing dissimilar studies, which is a common threat to validity (Sharpe, 1997), we included only studies using original measures of these concepts—that is, the FES and the ABC scale. These two scales are valid and reliable measures of falls self-efficacy and balance confidence (Hotchkiss et al., 2004; Powell & Myers, 1995; Talley, Wyman, & Gross, 2008; Tinetti et al., 1990). We considered analysis of the separate relationships of the FES and ABC scale with activity and participation measures to be appropriate because (1) the scales measure slightly different constructs (Jørstad et al., 2005) and (2) the FES has been suggested as appropriate for frail older adults because of its focus on basic ADLs, whereas the ABC scale has been suggested as appropriate for active older adults because of its focus on high-level balancing and walking abilities (Myers et al., 1996; Powell & Myers, 1995).

We defined *activity* and *participation* using specific classifications suggested by Whiteneck and Dijkers (2009) from the *International Classification of Functioning, Disability and Health* (World Health Organization, 2002). Activity items include learning and applying knowledge, general tasks and demands, communication, mobility, self-care, and domestic life. Participation items include interpersonal interactions and relationships, major life areas, and community, social, and civic life (Whiteneck & Dijkers, 2009). Because activity is such a broad category, it was subcategorized by type: occupation-based activity or performance skill (see Table 1 for definitions).

Data Analysis

We carried out a meta-analysis of the linear association between fall-related efficacy and measures of activity and participation using the Pearson correlation coefficient *r* as the unit of analysis. For prospective studies, only the *r* values collected at baseline were analyzed. Before performing the meta-analysis on the correlation values *r*, Fisher's *Z* transformation was performed on the correlation (Equation 1). The transformation is expressed as

$$Z=\frac{1}{2}\log\left(\frac{1+r}{1-r}\right) \quad (1)$$

and provides a unit of measurement that has variability that depends only on the sample size (Fisher, 1915). This transformation is widely used and recommended in meta-analysis involving correlation (Hedges & Olkin, 1985). We used a homogeneity test using Cochran's *Q* statistic to examine between-study variation. If the *Q* statistic was significant ($p \leq .05$), we used a random effects model using a study-specific random intercept to pool the correlation values. The random effect also accounts for any clustering effects across measurements obtained from the same study. The study-specific *Z* measures were weighted

by the reciprocal of the variance, $1/(N-3)$, where N is the sample size for the study. We calculated the pooled estimate of Z and back-transformed the Z value to an r unit using the following formula (Equation 2):

$$r=\frac{\exp(2Z)-1}{\exp(2Z)+1}. \quad (2)$$

Moreover, We then calculated a 95% confidence interval (CI) for the pooled estimate, first in the Z scale and then in the r scale, by applying Equation 2 to the end points.

We conducted two subanalyses, pooling the r value and the CIs separately for each fall-related efficacy scale (FES vs. ABC scale) and activity type (occupation-based activity vs. performance skill). A meta-regression was run to determine whether activity type or fall-related efficacy scale had a significant differential effect. The strength of all resultant effect sizes was described as weak, moderate, or strong and corresponded to the size classifications by Cohen (1988): *small* = $.10 \geq r \geq .29$, *medium* = $.30 \geq r \geq .49$, and *large* = $r \geq .50$. Finally, we investigated the existence of publication bias by means of tests by Begg and Mazumdar (1994) and Egger, Davey Smith, Schneider, and Minder (1997).

Results

We obtained a total of 1,118 references from the initial database searches, and from those we selected 82 studies for detailed evaluation. The selection process is depicted in Figure 1. Because only two studies met criteria and reported correlations between fall-related efficacy and measures of participation, we could not perform an analysis of participation. With regard to activity, we found 20 studies yielding 67 correlations between fall-related efficacy scales and activity type (see Table 2 for details).

The homogeneity test using Cochran's (1954) Q statistic was significant ($p < .001$), thereby indicating substantial between-study variation. As a result, we performed the random effects analysis. The pooled estimate of Z equaled .59 (95% CI [.51, .67]). After back-transformation to an r unit, the pooled estimate was large ($r = .53$; 95% CI [.47, .58]). A forest plot showing individual and pooled r values with 95% CIs is provided in Figure 2. The plot is presented with a single (average) correlation per study.

The subgroup analysis for fall-related efficacy on the basis of type of scale yielded pooled correlation coefficients for the FES and ABC scales of .47 (95% CI [.34, .58]) and .55 (95% CI [.48, .62]), respectively. For activity type, pooled correlation coefficients for occupation-based activity and performance skill were .55 (95% CI [.44, .65]) and .51 (95% CI [.44, .56]), respectively. The meta-regression analysis of the r values indicated a lack of differential effect resulting from either fall-related efficacy scale ($p = .10$) or activity type ($p = .27$). However, a trend toward significance was noted for efficacy scale type. Overall, the pooled correlation estimates for the main and subgroup analyses were .47–.55, with a range showing medium to large effect sizes and little variability in correlations. Tests for publication bias yielded highly nonsignificant p values, establishing lack of bias.

Discussion

The results of our meta-analysis suggest a strong positive relationship between fall-related efficacy and activity. Higher fall-related efficacy in performing certain daily tasks without losing balance or falling is associated with higher levels of activity function and performance. This finding is consistent with the significant correlations reported in nearly all of the articles reviewed.

Further investigation into the relationship between fall-related efficacy and activity showed that both FES and ABC scale scores were strongly related to activity. Additionally, a trend was found toward a differential effect between the two scales; the ABC scale showed a stronger relationship with activity than did the FES. This finding suggests that a meaningful distinction may exist between these two constructs of fall-related efficacy, an idea supported in previous research (Moore & Ellis, 2008), and that assessing both balance confidence and falls self-efficacy as they relate to activity may be important. The difference found between the scales may be a result of the type and complexity of activities measured within the individual studies. The ABC scale was designed to address a wider continuum of ADL difficulty than was the FES (Powell & Myers, 1995). If activities included in each study were more frequently tapping high-level balance- and mobility-related activities, then this trend toward the ABC scale having a stronger relationship with such activities is reasonable. Although the difference was not statistically significant, a true difference between the two efficacy scales and their relationship to activity may be revealed with a larger sample of studies of similar focus. This finding provides justification for further investigation into measures of balance confidence because the current focus in fall-related efficacy research is largely on falls self-efficacy measures. Moreover, research into the FES–International—a scale designed in part to address the ceiling effect of the original FES (Yardley et al., 2005)—is warranted and may show a similar trend in stronger significance to activity performance than the FES.

We also explored the relationship between fall-related efficacy and activity by dividing activity into two types: occupation-based activities and performance skills. Although both activity types were strongly correlated with fall-related efficacy, no significant differential effect existed between the two. Thus, fall-related efficacy affects not only the more complex activities categorized under occupation-based activities (e.g., ADL performance) but also the more basic performance skills that underlie activity performance and are necessary to engage in ADLs (e.g., muscle strength). The lack of a differential effect between activity types is somewhat surprising because both measures of fall-related efficacy are designed to specifically address occupation-based activities (e.g., standing on a chair to change a light bulb) as opposed to individual performance skills. Consequently, these results emphasize that occupational therapists should consider all levels of occupational performance when working with older adults, including both occupation-based performance and the more basic performance skills necessary to carry out ADLs.

Limitations

This study has some limitations. We examined the relationship of fall-related efficacy and activity at one point in time; therefore, causality cannot be determined. In addition, we found insufficient evidence to form conclusions about the relationship of fall-related efficacy to participation, in part because of the lack of participation measures and the difficulty of distinguishing participation from activity in current instruments. It will be important to examine the relationship between fall-related efficacy and participation when more targeted measures are developed. Regarding study selection, published studies with significant results may have been overrepresented; however, this bias appears unlikely on the basis of the tests for publication bias we conducted (Begg & Mazumdar, 1994; Egger et al., 1997). Our meta-analysis included a limited number of smaller studies, which affects generalizability. In addition, although we made efforts to reduce the heterogeneity of our activity measures by classifying them by type, a wide variety of activity measures were used across studies. The unique differences of specific activity measures within each of our classification types (occupation-based activities and performance skills) cannot be disentangled in this analysis.

Implications for Occupational Therapy Practice

Our findings have important clinical implications for occupational therapists who work with community-dwelling older adults. Given the strong relationships we found between fall-related efficacy and activity, occupational therapists clearly have an important role in assessing older adults' fall-related efficacy issues. A client-centered approach in occupational therapy must include not only objective, physically based outcomes but also subjective information that may influence occupational performance (American Occupational Therapy Association, 2008), such as that which is gathered from measures of fall-related efficacy. Further analysis of the relationship between fall-related efficacy and activity showed a trend toward a differential effect of falls self-efficacy versus balance confidence. This finding indicates a potential need for occupational therapists to assess the two constructs separately when working with older adults.

In terms of intervention, research has shown that general self-efficacy is modifiable and can be influenced using strategies such as providing mastery experiences and modeling the activity (Bandura, 1982). More specifically, evidence suggests that fall-related efficacy can also be influenced through interventions (Zijlstra et al., 2007) such as the cognitive–behavioral approach taken by Tennstedt and colleagues (1998), whose intervention successfully altered falls self-efficacy by targeting beliefs about falls and fall risk, stressing safe behaviors, and including action planning.

With interventions, it is important to keep in mind the appropriateness of an older adult's fall-related efficacy relative to his or her personal fall risk (Delbaere, Close, Brodaty, Sachdev, & Lord, 2010). It is not practical, for instance, to automatically conclude that an older adult with low fall-related efficacy is in need of intervention if this fear is rational and results in caution when engaging in activity. However, low fall-related efficacy is an issue worth addressing if it is associated with reduced activity performance and functioning that could affect occupational engagement. Therefore, interventions aimed at improving the appropriateness of fall-related efficacy may indeed result in improved activity performance and occupational engagement. Interventions addressing balance confidence and falls self-efficacy separately may also prove beneficial, according to the findings from this study, and may require different strategies to effectively address either aspect of fall-related efficacy. Remaining active is a critical component of successful aging (Berkman et al., 1993; Fisher, 1995), and addressing fall-related efficacy may be one avenue toward helping older adults maintain health and wellness.

In summary,

- The strong relationships found between fall-related efficacy and activity mean that occupational therapists have an important role in assessing older adults' fall-related efficacy issues.
- The finding of a differential effect of falls self-efficacy versus balance confidence indicates a potential need for occupational therapists to assess the two constructs separately in older adults.
- Interventions addressing balance confidence and falls self-efficacy separately may prove beneficial and may require different strategies.

Conclusion

Our meta-analysis found fall-related efficacy to be strongly related to measures of activity and performance in community-dwelling older adults. These findings highlight the potential need to address fall-related efficacy when promoting occupational engagement in this

population. Future research should address the relationship of participation to fall-related efficacy and interventions targeting fall-related efficacy.

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* Indicates studies that were included in the meta-analysis.

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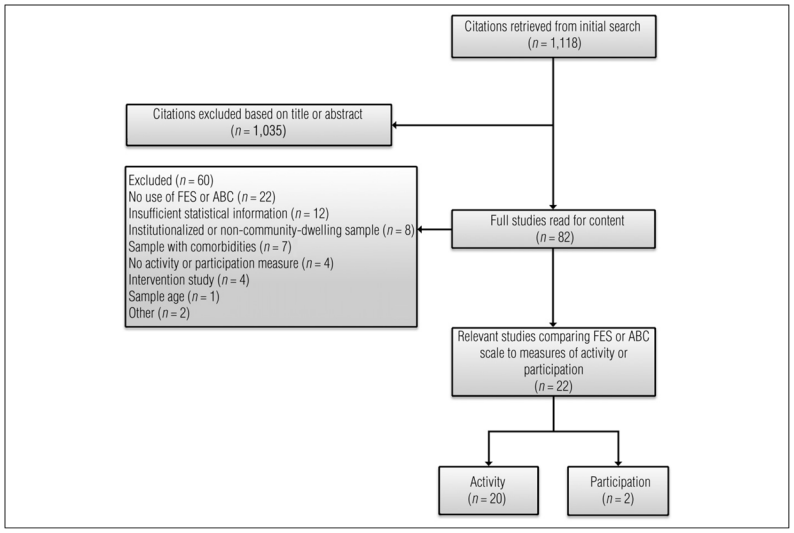

Figure 1. Selection process of studies considered for and included in the meta-analysis
Note. ABC = Activities-specific Balance Confidence scale; FES = Falls Efficacy Scale.

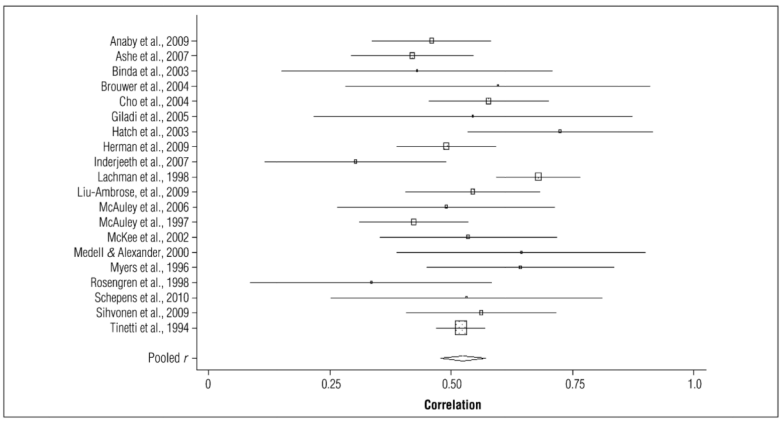

Figure 2. Forest plot depicting the average *r* value and associated 95% confidence interval from 20 distinct studies, as well as the pooled *r* value

Table 1

Operationally Defined Terms Used as Selection Criteria

Term	Definition	Measures Included
Fall-related efficacy	Collective term that includes the concepts of falls efficacy and balance confidence; confidence or belief in one's ability to perform activities without losing balance or falling	FES and ABC
Falls self-efficacy	Perceived self-confidence in avoiding falls during essential, relatively nonhazardous activities (Tinetti & Powell, 1993)	FES
Balance confidence	Degree of confidence in one's ability to avoid a loss of balance while performing ADLs (Powell & Myers, 1995)	ABC
Activity	Execution of a task or action by an individual (World Health Organization, 2002)	Measures addressing learning and applying knowledge, general tasks and demands, communication, mobility, self-care, and domestic life
Occupation-based activities	Activities with occupation as the core focus	ADL or IADL measures; occupation-based measures
Performance skills	Skills clients demonstrate in the actions they perform (American Occupational Therapy Association, 2008) and that underlie activity performance	Performance-based measures addressing motor or motor planning skills
Participation	Involvement in life situations	Measures addressing interpersonal interactions and relationships, major life areas, and community, social, and civic life

Note. ABC = Activities-specific Balance Confidence scale; ADL = activity of daily living; FES = Falls Efficacy Scale; IADL = instrumental activity of daily living.

Table 2

Characteristics of Included Studies and Correlations Between the Fall-Related Efficacy and Activity Measures

Study	Design	*N*	Mean Age	Efficacy Scale	Activity Type	Activity Measure	*r*	*p*
Anaby, Miller, Eng, Jarus, & Noreau (2009)	Cross-sectional	200	75	ABC	ADL	Total LIFE–H	.46	.01
Ashe, Eng, Miller, & Soon (2007)	Cross-sectional	200	74	ABC	Performance	6-min walk	.52	≤.001
				ABC	Performance	Pedometer—mean daily steps	.32	≤.001
Binda, Culham, & Brouwer (2003)	Cross-sectional	40	Control group = 72.5; fear of falling group = 77.1	ABC	Performance	Anterior–posterior COP	.65	<.001
				ABC	Performance	Right–left COP	.39	<.017
				ABC	Performance	Knee flexor strength	.38	<.04
				ABC	Performance	Knee extensor strength	.39	<.04
				ABC	Performance	Ankle plantar flexor strength	.34	<.04
Brouwer, Musselman, & Culham (2004)	Cross-sectional	25	76.4	ABC	ADL Performance	SF–36 physical component sum	.698	NR
				ABC		Hip flexor torque	.504	NR
Cho, Scarpace, & Alexander (2004)	Cross-sectional	167	78	ABC	Performance	Maximum step length	.661	<.01
				ABC	Performance	Rapid step test	−.321	<.01
				ABC	Performance	Timed tandem stance	.592	<.01
				ABC	Performance	Timed unipedal stance	.586	<.01
				ABC	Performance	Timed tandem walk	−.52	<.01
				ABC	Performance	Timed Up & Go test	−.606	<.01
				ABC	Performance	6-min walk	.631	<.01
				ABC	Performance	Performance Oriented Mobility Assessment	.637	<.01
				ABC	ADL	EPESE physical function battery	−.644	<.01
Giladi, Herman, Reider-Groswasser, Gurevich, & Hausdorff (2005)	Cross-sectional	25	78.4	ABC	ADL Performance	Barthel ADL Index	.48	<.015
				ABC		Gait speed	.61	<.002
Hatch, Gill-Body, & Portney (2003)	Cross-sectional	50	81.7	ABC	Performance	Berg Balance Scale	.752	<.01
				ABC	Performance	Timed Up & Go test	.698	<.01
Herman, Inbar-Borovsky, Brozgol, Giladi, & Hausdorff (2009)	Prospective	278	76.3	ABC	Performance	Dynamic Gait Index	.49	<.001
Inderjeeth et al. (2007)	Cross-sectional	99/105	79.5	FES	Performance	Left leg extension peak torque	.368	<.001
				FES	Performance	Left leg extensor maximum power	.307	.003
				FES	Performance	Left leg flexion peak torque	.325	.002

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Study	Design	*N*	Mean Age	Efficacy Scale	Activity Type	Activity Measure	*r*	*p*
				FES	Performance	Left leg flexor maximum power	.212	.046
Lachman et al. (1998)	Cross-sectional	270	76.16	FES	ADL	SF–36 physical functioning	.67	<.001
				FES	ADL	SAFE no. of activities	.69	NR
Liu-Ambrose, Katarynych, Ashe, Nagamatsu, & Hsu (2009)	Cross-sectional	140	69.6	ABC	Performance	Simple walking while talking	−.55	≤.001
				ABC	Performance	Complex walking while talking	−.54	≤.001
McAuley et al. (2006)	Prospective	249	68.12	ABC	Performance	8-ft Up & Go test	−.41	<.01
				ABC	ADL	Function & Disability Inventory: Basic lower-extremity function	.53	<.01
				ABC	Performance	Stair ascent	−.46	<.01
				ABC	Performance	7-min walk	−.35	<.01
				ABC	ADL	Physical Activity Scale for the Elderly	.31	<.01
				ABC	ADL	Community Healthy Activity Model Program for Seniors	.22	<.01
				ABC	Performance	Stair descent	−.53	<.01
				ABC	ADL	Function & Disability Inventory: Advanced lower-extremity function	.58	<.01
McAuley, Mihalko, & Rosengren (1997)	Cross-sectional	58	71.72	FES	Performance	Berg Balance Scale	.49	<.01
McKee et al. (2002)	Cross-sectional	82	80.2	FES	ADL	Prefall activity problems	−.70	<.001
				FES	ADL	Functional limitations profile	−.37	.005
Medell & Alexander (2000)	Cross-sectional	34	Young = 21; unimpaired older = 69; impaired older = 77	ABC	Performance	Maximum step length	.75	<.002
				ABC	Performance	Rapid step test time	−.54	<.002
Myers et al. (1996)	Cross-sectional	60	74.6	ABC	Performance	30-m walking speed	.56	<.01
				FES	Performance	30-m walking speed	−.25	>.05
				ABC	ADL	Floor sweeping frequency	.70	<.001
				ABC	ADL	Shopping frequency	.54	<.001
				ABC	ADL	Activity avoidance ratings of ABC items	−.92	<.001
				ABC	ADL	Perceived difficulty ratings of ABC items	−.89	<.001
Rosengren, McAuley, & Mihalko (1998)	Cross-sectional	55	71.1	FES	ADL	Physical activity	.21	>.05
				FES	Performance	Berg Balance Scale	.48	<.01
				FES	Performance	Gait speed—No obstacle	.43	<.01
				FES	Performance	Gait speed—2.5 cm obstacle	.35	<.01

Study	Design	*N*	Mean Age	Efficacy Scale	Activity Type	Activity Measure	*r*	*p*
				FES	Performance	Gait speed—5.05 cm obstacle	.30	<.01
				FES	Performance	Gait speed—10.0 cm obstacle	.32	<.01
				FES	Performance	Gait speed—20.0 cm obstacle	.31	<.05
				FES	Performance	Gait speed—40.0 cm obstacle	.28	<.05
Schepens, Goldberg, & Wallace (2010)	Cross-sectional	35	72.86	ABC	Performance	Unipedal stance time	.46	≤.01
				ABC	Performance	Maximum step length	.69	≤.001
				ABC	Performance	Functional Reach	.33	≤.05
				ABC	Performance	Timed Up & Go test	−.65	≤.001
Sihvonen et al. (2009)	Cross-sectional	79	74.4	ABC	Performance	Berg Balance Scale: Hip fracture group	.74	NR
		31		ABC	Performance	Berg Balance Scale: Nonfracture group	.384	NR
Tinetti, Mendes de Leon, Doucette, & Baker (1994)	Cross-sectional	1,103	79.6	FES	ADL	ADL and IADL function	.55	NR
				FES	ADL	Yale Physical Activity Survey–modified`	.49	NR

Note. ABC = Activities-specific Balance Confidence scale; ADL = activity of daily living; COP = center of pressure; EPESE = Epidemiological Study of the Elderly; FES = Falls Efficacy Scale; IADL = instrumental activity of daily living; LIFE–H = Assessment of Life Habits; NR = not reported; SAFE = Survey of Activities and Fear of Falling in the Elderly; SF–36 = Short Form–36 Health Survey.